vol. VI no. 3
NOVEMBER, 1946

School Shop

FOR INDUSTRIAL ARTS & VOCATIONAL EDUCATION TEACHERS

School Shop Talk—
A New Feature of Editorial Comment

Design in the Industrial-Arts Shop
by Raymond W. Perry

Checking for Drafting Knowledge
by C. A. Rosell

Nut Cracker
by Stan Schirmacher

On the cover: Good projects evolve out of good design technics. See page 5 for procedures. This is a Chicago, Illinois, Public Schools photo.

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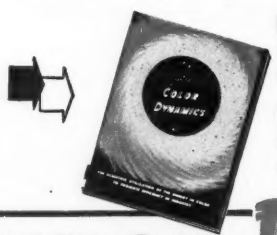

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In the Offing . . .

Coming up for SCHOOL SHOP readers is a wealth of interesting project material in woodworking, metalworking, electricity, plastics, and drafting. Watch also for discussions of new developments in the realm of industrial education. There will be the usual complement of helpful regular features.

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School Shop

FOR INDUSTRIAL EDUCATION TEACHERS

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School Shop TALK

COMMENTS ON ISSUES FACING INDUSTRIAL EDUCATION

We Rise to Remark

With this issue SCHOOL SHOP is starting a new editorial feature—School Shop Talk. In the past we have carried occasional editorials but we have never had a regular editorial page. From now on, this is it. We don't hold a claim for infallibility so there will be lots of disagreement with the observations printed here. You are welcome to take issue with them. If you think we are wrong, tell us so.

The reason we have held off so long from printing a regular editorial page is that we were not honestly convinced that most of the stuff that went into editorials really had any significance for teachers. The rising amount of discussion about objectives, programs, and political policies has led us to believe that we were wrong.

There are a tremendous number of problems that need airing. Teachers need to make judgments for themselves based on adequate information. The columns of SCHOOL SHOP are intended to give them information. Because SCHOOL SHOP is an independent publication without institutional or organizational affiliations, it is in a unique position to serve as a forum for issues confronting the profession. This is our purpose and if it meets a need we will continue to carry the feature. If you don't like it, we'll junk it.

Far be it from us to make the editorial page an exclusive proposition for one viewpoint. To give diversity we are inviting leaders in the profession to have their say on a subject that they think needs airing. Industrial-arts leaders and vocational leaders will both be invited to contribute. SCHOOL SHOP has never subscribed to the proposition that it is *either* vocational education *or* industrial arts. Incidentally, when we use the term "industrial education," we mean both industrial-arts education and trade and industrial education. Both areas of instruction serve real educational needs of young people and both areas deserve the support and understanding of the general public and of each other. Our selection of editorial content has been based on this proposition.

This is a time when educational statesmanship is needed. We are all part of a great social institution—the public schools—which has as its objective the provision of the best education possible for the youth of the land. Our first obligation is to these young people. Decisions on policies, programs, and personnel should be made with this responsibility in mind. Action should be based on the educational needs of youth, not on allegiance to a particular industrial-arts philosophy or a vocational party line. SCHOOL SHOP will gladly serve as a forum for discussion on all topics creating a stir in our field but our major responsibility is the establishment of a sound educational program for youth.

Your Editor

A City Director Looks at the George-Barden Bill

THE Vocational Education Act of 1946, often referred to as the George-Barden Act, appropriates about 15 million dollars for the further development of vocational education. The conditions under which the money becomes available to schools are, in general, those of the Smith-Hughes Act. However, the present act does clarify and reinterpret some requirements, liberalizes others, and opens the opportunity to encourage some new services. The total amount of money now appropriated under the three acts—the Smith-Hughes, the George-Deen, and the George-Barden—will go far toward the further development of vocational education.

The dollars which come from the George-Deen and George-Barden Acts require "matching" by the states. If the federal dollar is matched by a state legislative appropriation, thus creating two dollars for state distribution to the local school unit, the effect is to produce 30 million dollars nationally. If the state boards then set up a vocational program under an organization which provides 50 percent reimbursement to local districts on teachers' salaries, the original federal dollar has increased to four dollars for vocational education locally. Even so, the local community still has the major responsibility for financing any adequate vocational program. The school plant and its operation, equipment and educational supplies, the salaries of all personnel including administration, except teachers actually engaged in teaching shop or related subjects, are all the financial responsibility of the local school unit.

The underlying purpose of the federal legislation pertaining to vocational education is to *assist* the states and local units of government in developing further their own programs. It is good to learn that the U. S. Office of Education is making plans for reorganization which will place the operation and control more definitely with the state and the local units of government. Much remains to be done in encouraging local responsibility. Federal and state authorities have in the past so frequently found themselves assuming too much responsibility for the local organization, and this usually comes about by the local authorities being unwilling to assume it. It is so much easier to depend on interpretations and directives than it is to expend the time and energy to solve the problems.

There are several provisions in the recent act which may require careful interpretations. Although the act is very specific in stating that the appropriations are subject to the same conditions as those of the Smith-Hughes Act, there are six exceptions or authorizations contained in it. Local administrators will hope fervently that these exceptions will be recognized for the purpose of simplifying operation of vocational programs under the act. The U. S. Office of Education, the state boards for vocational education, and the local school authorities have the responsibility of spending this money for the purpose for which it was appropriated. The growing demand by some educational groups that federal money is needed for all education should not deter educational authority from a strict administration of the act. Vocational education is a recognized national need. The Congress, we may assume, has been made well aware of the need for many other phases of education, but even so the appropriation came through with a minimum of opposition on the floor of both the Senate and the House.—*Earl L. Bedell, Director of Vocational Education, Public Schools, Detroit, Michigan.*

Calling

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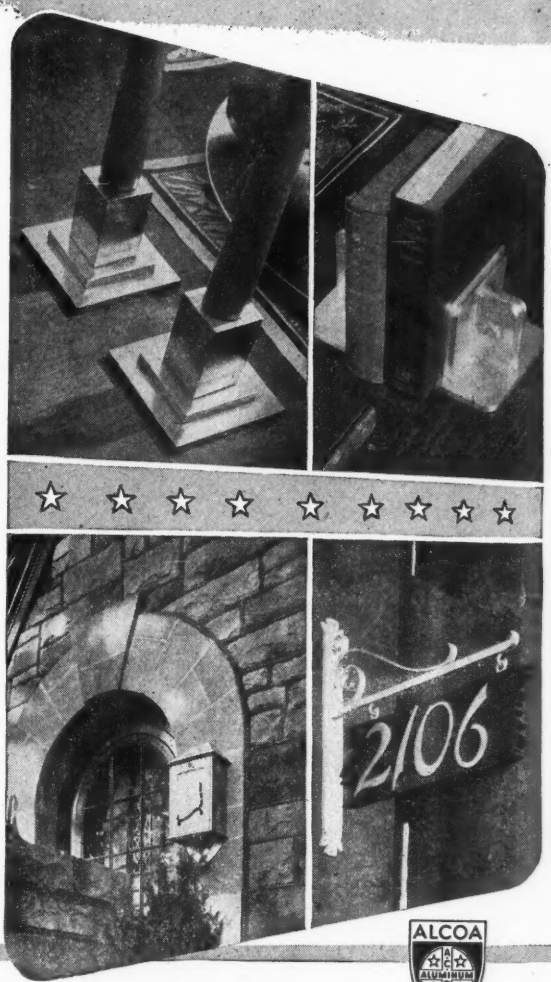

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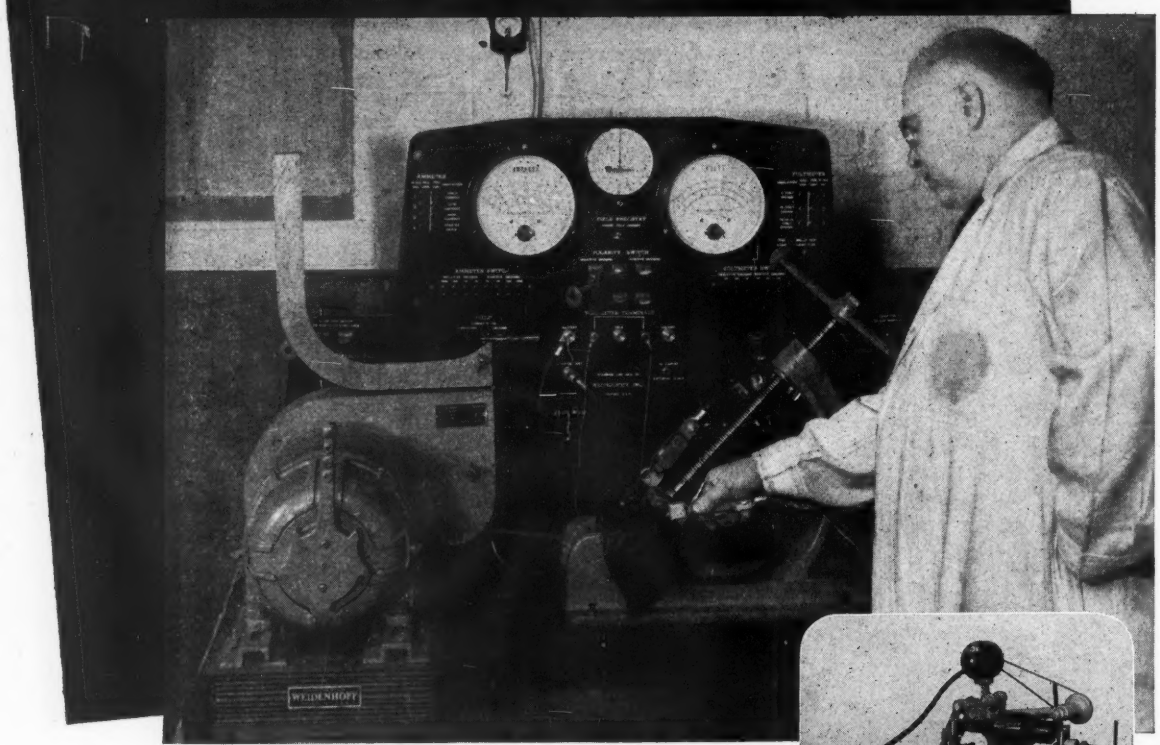

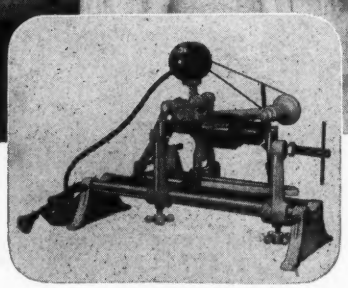

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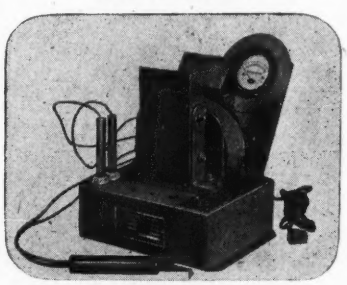

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Design in the Industrial-Arts Shop

BY *Raymond W. Perry*

An important ingredient of modern industrial production is design of the product. Too often this aspect of industrial education is slighted. Here are specific technics for teaching the fundamentals of design. Raymond W. Perry is State Supervisor of Industrial Education for Rhode Island.

NO industry can survive today unless it produces things of utility combined with beauty. From agricultural implements to cosmetics, the industrial designer has two paramount objectives—function and beauty. Good design incorporates both and both are essential for maximum public appeal.

Now, if design is such a fundamental and important factor in modern industry, is it not essential for us to teach more about design in all types of industrial-arts programs? If we neglect this ingredient in our teaching, we are depriving the pupil of educational experience which he should have if he is to understand the workings of modern industry.

Design cannot be taught in one easy lesson. Neither can it be taught as we teach a tool operation. Tool operations are very objective. Design is not so objective and no one can tell or show a pupil how to create a design. Nevertheless, we can use teaching technics which will help the pupil to become more conscious of design. These technics cannot be fully explained in one short article. However, I can point out a few aids so that the industrial-arts teacher can improve his technic.

First, then, I would provide a room away from the noise of the shop for planning and design. This room might be called the planning department. It should be well lighted and equipped with plenty of table space and shelves for filing and research material. At least one large workbench, equipped with a vise and simple hand tools, should be provided. Drawing and painting materials for layouts and design should be included. There should be a variety of materials assembled for the construction of real working models of the object to be designed. These materials should consist of paper, cardboard, sheet lead, wire, and modeling clay. There should be many geometrically shaped wooden blocks, glue, Scotch tape, nails, brads and screws, and other types of fasteners. Many different kinds of materials will be gradually assembled in this room as the work of model making progresses.

In three-dimensional design it is a safe method first to construct a model of the object you wish to design by using any type of material at hand. The following method is suggested:

1. Decide on the object you wish to design. Does it have some practical use? Where will it be used? Who will use it?
2. Decide what material to use.
3. Decide on the size of the primary mass—over-all length, width, and thickness.
4. Make the space divisions necessary to the function and appearance of the object.
5. Make necessary changes in the primary mass to improve the appearance and to assure safety.
6. Design all details to be in harmony with the object.
7. Plan for the best possible construction.
8. Plan for a suitable finish.
9. Figure the cost of material.
10. Prepare a shop or working drawing.

An Illustrative Case in Designing

Using the above outline, the pupil may proceed in the following manner.

The pupil may decide to make a pair of wooden book ends which will be used on a table or desk top. (See Figure 1.)

Figure 1—The pupil decides to make a pair of wooden book ends.

The function of the book ends, of course, is to hold a number of books in place upon a table or desk top.

He decides to make the book ends of mahogany with an extended base of sheet brass. The weight of the first two books on the extended base will help to hold the book ends in place.

He stacks a number of miscellaneous books together and plans for the rough height and width of the book ends.

He forms a rectangular mass of modeling clay to these rough dimensions. Next he cuts off a section which he feels would be the right proportion for the thickness. (See Figure 2.)

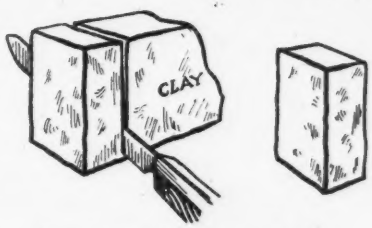


Figure 2—He plans the mass in clay.

He studies this mass, thinking in terms of good proportion. Is it high enough or too high? Is it wide enough or too wide? Is it thick enough or too thick?

He tries a book against this mass and makes any necessary changes. How can the shape of this primary mass be changed to one of more pleasing appearance? Any portion removed or added to this mass changes the design.

He makes one oblique cut downward from top to bottom. (See Figure 3.)

Figure 3—This cut is unsatisfactory.

A cut like this would leave a sharp edge at the top which would be likely to break. It looks too much like a wedge.

A cut like the following is too much like a vertical cut and does not give enough contrast and variety. The top surface feels too wide. (See Figure 4.)

Fig. 4—This cut is also unsatisfactory.

He practices making cuts until he has made one that "feels" right. (See Figure 5.)

Figure 5—This cut seems about right.

The two ends are then slanted. (See Figure 6.)

This oblique cut gives a feeling of support to the books.

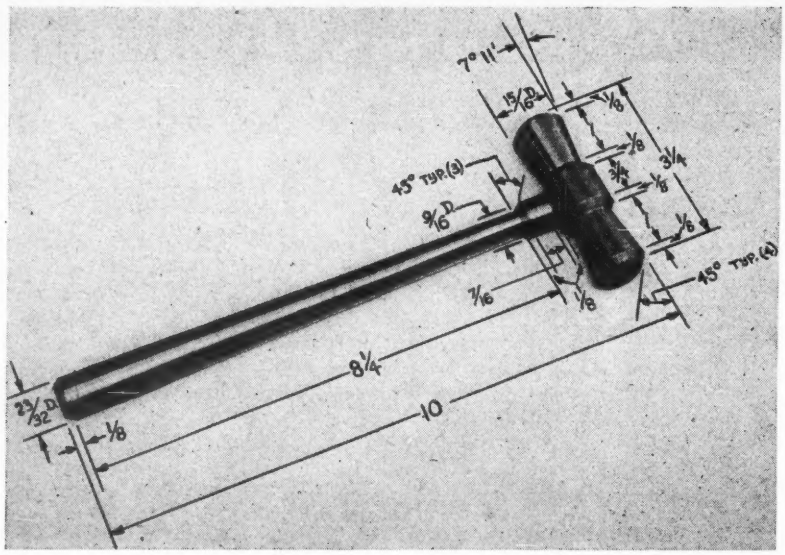
The oblique surface offers a tempting place to decorate. Why not carve a monogram within a circle? It would be

(*Continued on page* 11)

Nut Hammer

BY *Stan Schirmacher*

This excellent elementary machine-shop project is a good substitute for the old ball-pein hammer project because so much more can be taught through its construction. Stan Schirmacher teaches in the Clemenceau Junior High School, Cottonwood, Arizona



TESTED INSTRUCTIONAL PROJECT

THIS hammer for use with a nut bowl (or for general purposes) was designed to replace the common ball-pein hammer project with a modern counterpart. (The old standby project offers no machine-controlled processes except in the manufacture of the taper handle. Its head involves only plain turning and facing as machine actions. The concave cuts and the turning of the ball are certainly not conducive to micro-accurate training of beginners. These procedures are only products of individual skills — the change from the knack of holding and using the wood-lathe tool to the knack of the proper timed turning of two wheels on the metal lathe!)

This new hammer ("hammer" it seems it must be for every boy trainee wants to make a hammer!) shows the student how the parts of the metal lathe can be used to make various machine-operated "straight-line" cuts. Thus, without any guesswork, the job is finished exactly to specifications.

As outlined in the following operations, this hammer was planned as a shiny, attractive "nut cracker" for the center post fitting of a nut bowl without any hardening processes. For more general hammering the head would have to be case hardened before assembly or the material could be tool steel.

Head

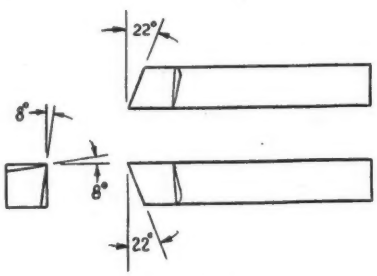
Material required: Cold rolled steel 1" diameter x 6" long.

Operations:

1. Center drill both ends.

2. Finish turn stock to 15/16" diameter.

3. Lay out: Scribe marks for the ¾" middle section in center of stock. Also scribe marks 1⅛" from them for high points of the end chamfers. In order to check accurately and easily the distance of 45° cut, which makes the ⅛" chamfer, a line is scribed ¼" from each of the four lines already drawn for a 90° V cut.



Right- and left-hand tool bit.

4. Cut chamfers: With a special "ambidextrous" tool as illustrated, or a regular facing tool or even a threading too, the chamfer cut is taken out of the ¼" space similar to the screw-cutting action. With the compound rest set at 45° and the surface of the tool's cutting edge at right angles to the line of compound feed, the cut is taken each time to stop at the high point line (that is, the chamfered surface). The cut is made with the compound feed and is advanced to the next cut with the cross feed. When the cutting tool finally reaches the ¼" stop line, the chamfer will be the correct size. The one set-up will work for all four chamfers as the stock is turned end for end after chamfering the two on one side of center.

5. Cut taper: With the compound rest set at 7°11' (approximately 7¼°) finish turn the taper which will extend from the end high point to the base of the middle chamfer cut. Reverse stock in centers to cut other taper with same set-up.

6. Polish with emery cloth.

7. Cut off end stock 1/32" from base of end V cuts.

8. Face ends: Place work in three-jaw chuck. Grip on center section using sheet brass to prevent marring of surface. Face ends.

9. Drill and tap 5/16—18 for handle.

Handle

Material required: Cold rolled steel ¾" diameter, 12" long.

Operations:

1. Center drill both ends.

2. Turn stock to 23/32" diameter (or 47/64" if possible).

3. Finish turn one end to 9/16" diameter for a distance of about 3".

4. Lay out: Scribe marks for the 7/16" flat section 1⅛" from bottom of center hole in the 9/16" diameter end. Scribe chamfer stop lines ¼" from the 7/16" layout lines. Eight and three-eighth inches from the 7/16" section scribe mark for high point of long taper. Scribe chamfer stop line ¼" from this line.

5. Cut chamfers: The one set-up of the compound rest can be used to cut the same angle chamfer on each end. Rotate the rest 90° for the other chamfer on the head end.

6. Arrange lathe for taper turning of handle. Finish turn taper.

7. Finish turn thread section to 5/16" diameter.

8. Polish with emery cloth.

9. Cut 5/16—18 threads on the lathe or with die (in which case the die must be used face end forward to cut threads to base of chamfer after threads are cut as far as possible the regular way).

10. Cut off handle close to base of V cut and on the threaded head end 15/16" from base of chamfer.

11. Face end: Carefully pack for three-jaw chucking on taper. Face end or hand file.

12. Assemble and finish file where threaded end appears through head.

Checking for Drafting Knowledge

BY *C. A. Rosell*

Understanding of fundamental principles is sometimes slighted in beginning drafting because of the emphasis on technics. Here is a method for quickly checking on the pupil's knowledge. C. A. Rosell teaches at the Arsenal Technical School, Indianapolis, Indiana

DUE to the fact that much time must be devoted to acquiring technic in a beginning drafting course, there is danger of becoming lax in checking on the pupil's comprehension of the fundamentals which must be acquired along with skill in manipulation of the tools of drafting. The number of drawings which may be completed in a draftsman-like manner is also limited because of the time required to lay out sheets, to letter, etc., aside from solving the problem at hand.

In order to teach better, drill which can be done with a minimum expenditure of time is advisable. Drill sheets in blueprint form have been found very valuable for checking the pupil on his comprehension of principles.

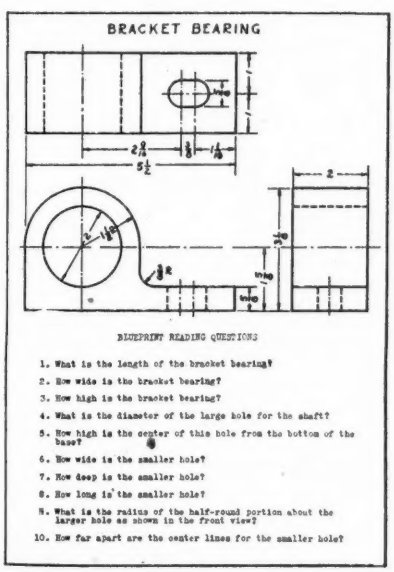
After each new principle has been explained, the pupil is required to work from four to eight problems involving that particular principle. The problems are graduated as to difficulty of solution; for the least capable the more difficult solutions may be omitted. Free-hand sketching on coordinate paper leads to speed; so this device was adopted. There are eight problems on each blueprint, and all can be solved on one sheet of 8½" by 11" coordinate paper. The sheet is divided into eight equal rectangles to correspond to the sheet divisions on the blueprint and to facilitate checking the problems. No straight edges of any kind are used as this only slows up the process. The pupil is graded on his solution only, not on his technic in sketching, spacing of problem, and quality of lines. If the solution is clear to the extent that the instructor can easily interpret the sketch, it is considered acceptable.

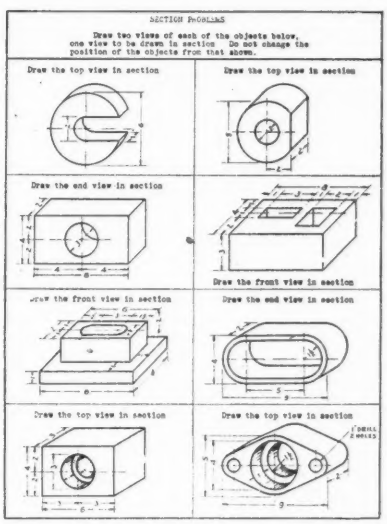
As these are drill sheets, not tests, the instructor may and should feel it his duty to aid in the solution of the problems when a pupil does not succeed because of lack of understanding of the principle involved. The sheets are a teaching device and should be so used.

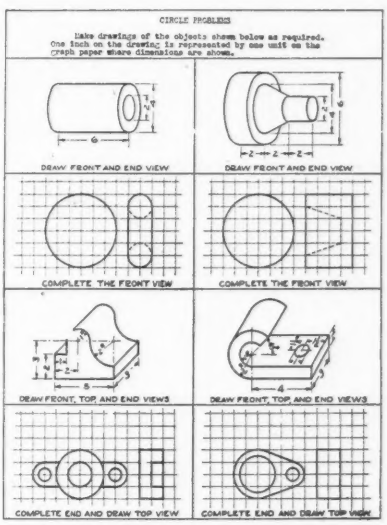
The blueprints are passed out at the beginning of the hour and collected at the close whether the papers are finished or unfinished. If additional time is needed by some pupils the prints may again be distributed. As soon as any pupil has completed the assignment, he may proceed with his drawing again. The old problem of individual differences will always arise; so a maximum time limit must be set.

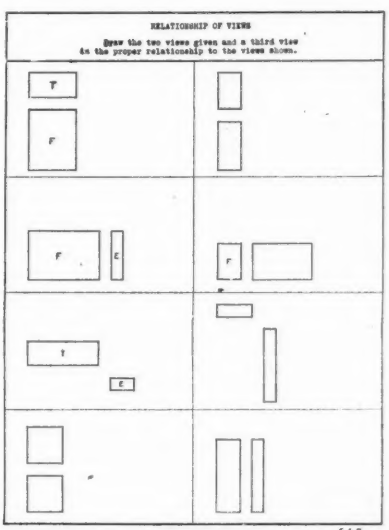
Where the blueprint has been laid off in squares in incomplete three-view form, the pupil merely counts squares, and then proceeds with the solution. Where dimensions are given, he counts squares to correspond to the number specified in the dimension and arranges the views as specified. Problems are not dimensioned but in order to teach it any sheet may be so adapted.

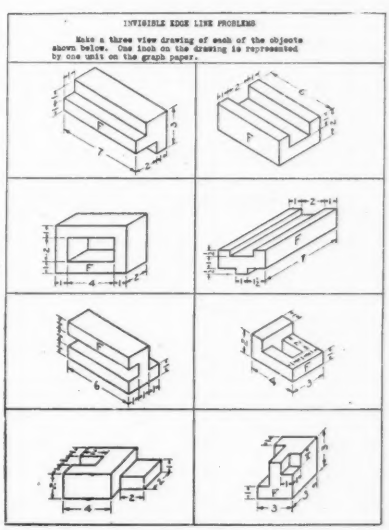
Below and to the right are examples of drill sheets.


BRACKET BEARING
BLUEPRINT READING QUESTIONS
1. What is the length of the bracket bearing?
2. How wide is the bracket bearing?
3. How high is the bracket bearing?
4. What is the diameter of the large hole for the shaft?
5. How high is the center of this hole from the bottom of the base?
6. How wide is the smaller hole?
7. How deep is the smaller hole?
8. How long is the smaller hole?
9. What is the radius of the half-round portion about the larger hole as shown in the front view?
10. How far apart are the center lines for the smaller hole?


SECTION PROBLEMS
Draw two views of each of the objects below, one view to be drawn in section. Do not change the position of the objects from that shown.
Draw the top view in section
Draw the top view in section
Draw the end view in section
Draw the front view in section
Draw the front view in section
Draw the end view in section
Draw the top view in section
Draw the top view in section


CIRCLE PROBLEMS
Make drawings of the objects shown below as required. One inch on the drawing is represented by one unit on the graph paper where dimensions are shown.
DRAW FRONT AND END VIEW
DRAW FRONT AND END VIEW
COMPLETE THE FRONT VIEW
COMPLETE THE FRONT VIEW
DRAW FRONT, TOP AND END VIEWS
DRAW FRONT, TOP AND END VIEWS
COMPLETE END AND DRAW TOP VIEW
COMPLETE END AND DRAW TOP VIEW




INVISIBLE EDGE LINE PROBLEMS
Make a three view drawing of each of the objects shown below. One inch on the drawing is represented by one unit on the graph paper.

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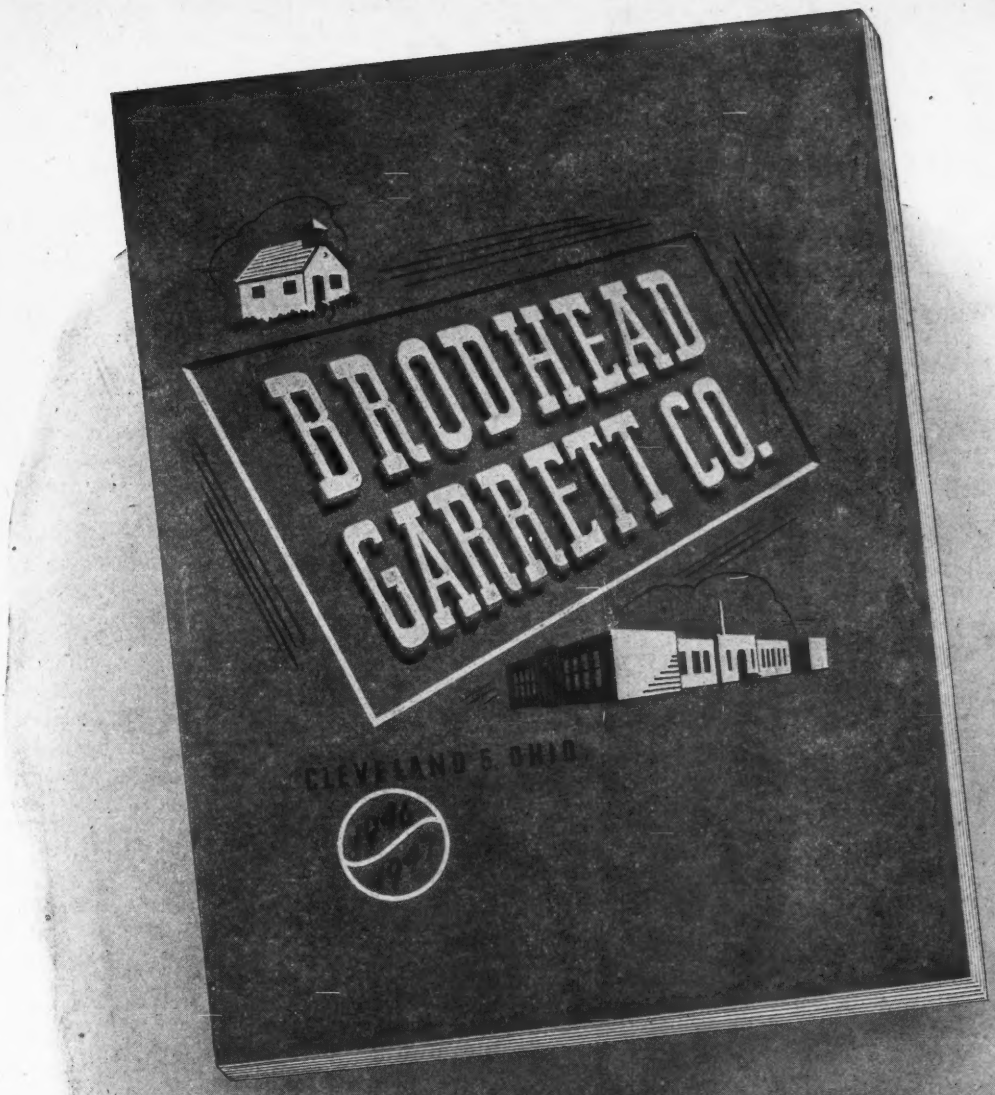

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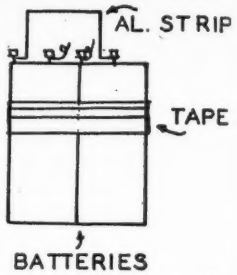
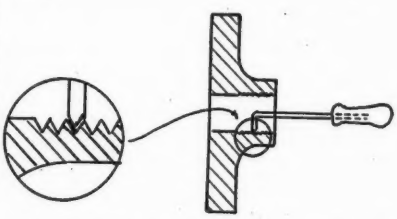
Battery Handle

Members of my model airplane club use dry cells as booster batteries to start their small model gas engines. The batteries have to be carried around quite a bit to wherever the planes are being flown. The boys used to carry them by the leads which usually resulted in the terminals being loosened and the leads being pulled off. To prevent this, I made a handle out of thick aluminum stock about ¾" wide. The handle was bent as shown in the drawing and each end was drilled to accommodate a terminal. The handle was then fastened to the positive terminal on one battery and the negative of the other. The aluminum acts as both a carrying handle and a lead. The batteries are taped together with friction tape.—*George McGinnis, High School, Goshen, New York.*



Easily Made Thread Cleaner

Dirt often collects inside the threads of faceplates. Unless these threads are kept clean, it is difficult to screw the faceplates on the headstock spindle of the lathe. Ultimately they will wear and become loose. While thread cleaners can be purchased on the market, the tool can be easily made in the school shop from a 20d nail and a file handle.



Saw off the head of the 20d nail with a hacksaw. By either filing or forging, make a 1½" tapered, square tang on one end of the nail. File a 60° point on the other end. Blunt the point slightly so that it will fit into the threads of the faceplate easily. Bend a right angle about ½" up from the point, using the machinists' vise. Now insert the tang end into a small file handle and the tool is ready to use as illustrated. A few turns around the inside of the faceplafe threads will clean them thoroughly.—*C. R. Schlegel, Arlington Junior High School, Jenkintown, Pa.*

To Stop That Split

When nailing near the end of a piece of wood frequently there is the danger of splitting the grain. This little procedure will often prevent spoiling what otherwise might be an acceptable piece of work. Dull the point of a nail or brad and then drive it. Now it pushes the wood ahead of it, instead of acting as a wedge and eausing a split.—*S. S. Palestrant and E. I. Russ, W. H. Taft High School, Bronx, N. Y.*

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Design . . . . . *from page 5*

Figure 6—Both ends are slanted.

decorative and still keep the feeling of wood.

The circular spot of carving will give variety and make a pleasing division of the space. The pupil plans for the size of the circle. Care must be taken to place the circle centrally and to have the greatest space at the bottom.

Details and refinements.—The pupil designs the monogram on paper to be carved within the circle. (See Figure 7.) He rounds slightly all edges above the base.

Figure 7—A monogram is designed to be carved.

Construction. — He determines the length of the extended brass base. It may be made to fit the base of the book end or recessed to the thickness of the metal. Holes will be drilled in the metal which will then be secured to the wooden base with brass wood screws.

Finish.—He plans to finish with mahogany stain, then with two coats of shellac. When dry, he will rub with pumice and water and finish with wax. The brass base will be cleaned and polished.

Shop drawing.—He will make a working drawing for shop use and finally figure the cost. (See Figure 8.)

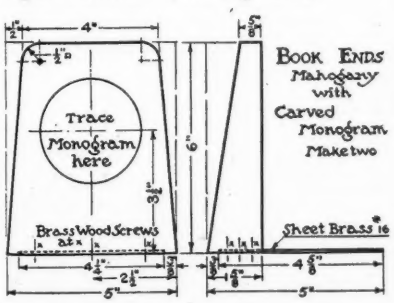

Figure 8—A working drawing is made of the book ends.

In Conclusion

To neglect design is to abdicate a fundamental responsibility of good industrial-arts teaching. Good design grows out of function by the way of proportion, balance, and unity. It is thought built into an object and not something applied to the surface, as frosting to a cake. Man, since time immemorial, has had a deep reverence for and desire for the beautiful. The industrial-arts teacher can continue the heritage. He cannot rely on chance to do the job, however. He must actively plan to give students the opportunity to think of design.

We'll See You In St. Louis!

THE American Vocational Association will meet December 4-7 in St. Louis, Missouri, with headquarters at the Jefferson Hotel. Executive Secretary L. H. Dennis reports that a record attendance is expected and Local Chairman Warren K. Begeman is planning topnotch entertainment. Affiliated organizations will convene on December 2 and 3. Excellent industrial-arts and trade-and-industrial-education section meetings are being planned. Stop in to see us at SCHOOL SHOP's booth, No. 38.

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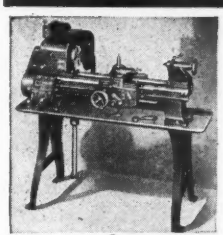
C TWO RUBBER BUTTONS cushion the cone pulley guard.



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NEWS

What's Doing in the Field of INDUSTRIAL EDUCATION

Training Directors Meet

THE American Society of Training Directors held its second annual convention in New Castle, Pa., October 17-18 with a large group of educators and persons interested in training programs in industry in attendance. President of the society is Tom Keaty, Director of Training, Standard Oil of New Jersey, Baton Rouge, La., and secretary is Andrew Triche, State Supervisor of Trade and Industrial Education for Louisiana. Section meetings were held on veteran training, presupervisory, and supervisory training.

Help Available

SCHOOLS which in recent months have been aided by the Army Air Forces Training Liaison Office in obtaining aeronautical materials will be interested in the announcement that this agency is making its personnel available to schools desiring to convert these materials into training equipment. Such schools will be assisted by representatives of the agency in dismantling planes and in the construction from salvaged parts of mock-ups and classroom training devices. Information and application forms can be secured from the AAF Training Liaison Office from which the materials were originally obtained.

Connecticut Meets

THE Connecticut Industrial Arts Association held its annual fall convention on October 25-26 in Bridgeport with headquarters at the Bassick High School. Dr. Verne C. Fryklund, President of The Stout Institute, Menomonie, Wis., spoke at the dinner meeting on October 25 on the subject, "What Does Today's Industrial Arts Expect of Its Teacher?" He also spoke at the luncheon meeting on October 26 when written questions from the audience served as a basis for the discussion.

Kansas Builds

A LARGE number of new buildings will be constructed to house shop facilities in Kansas during the coming months. Cities planning buildings exclusively for vocational education are Dodge City, Pittsburg, Wichita, and Winfield. Several other cities are planning expansion of or new general buildings, part of which will be utilized for industrial-education purposes.

Essay Contest

THE 11th Annual IPI Essay Contest will be held in 1946-47 according to a statement from the National Graphic Arts Education Association which cooperates with International Printing Ink in carrying on the contest. Prizes ranging from $500 for first to 25 prizes of $5 each will be awarded. The announced subject is: Printing's Place in the Postwar World. The contest has the approval of the National Association of Secondary-School Principals. Further information may be secured from Fred J. Hartman, Educational Director, National Graphic Arts Education Association, 719 Fifteenth St. NW, Washington 5, D.C.

Foundry Contest

SPONSORED by the American Foundrymen's Association, a contest is held each year in gray iron, steel and nonferrous molding, and patternmaking. Prizes of $100, $50, and $25 for first, second, and third places are awarded. Apprentices may enter any or all divisions. Blueprints for the patternmaking contest and patterns for the molding competition are selected by the contest committee and supplied through the American Foundrymen's Association headquarters, 222 W. Adams St., Chicago 6, Illinois.

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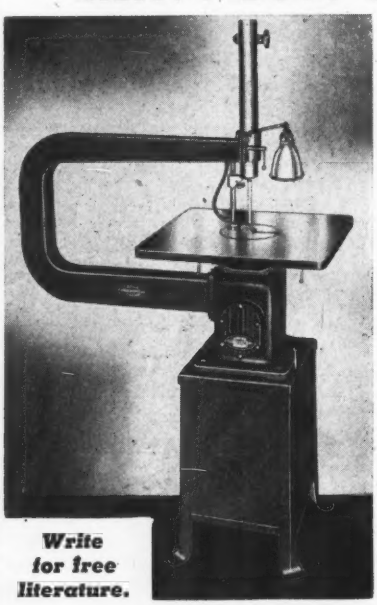

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WALTER W. BROWN, former coordinator and supervisor of trade and industrial education, Hannibal, Mo., schools, has been named to the staff of the Trade and Industrial Education Division, Missouri State Department of Education. . . . W. C. BICKNELL has been appointed chairman of the department of industrial education, Southern Illinois Normal University, Carbondale. . . . New members of the staff of the industrial-arts department, State Teachers College, Millersville, Penna., are URBAN L. MONICAL and CLIFFORD L. YARD. . . . MORRIS E. SIEGEL, assistant superintendent of schools in charge of vocational education, New York City, has been awarded the Harry J. Friedman Memorial Award for outstanding work in behalf of graphic arts education. The award was made in connection with the graduation exercises of the New York School of Printing. . . . P. E. OBERHOLTZER, formerly of Wichita, has been appointed instructor in refrigeration and air conditioning at Kansas State Teachers College, Pittsburg. . . . RUSSEL H. LANDIS has returned to Eastern Illinois State Teachers College, Charleston, as associate professor of industrial arts after a three-and-a-half-year leave of absence to work with the U.S. Office of Education. New members of the faculty at Eastern Illinois State Teachers College are ORTHO QUICK and CHARLES ELLIOTT . . . ALBERT JOCHEN has been named director of the Middlesex County Vocational Schools, N.J., succeeding the late WILLIAM J. MURRAY. . . . FLOYD W. LEE, head of the industrial-arts department of the Pekin, Ill., Community High School, died this summer. . . . R. C. JOHNSON, JR., of Princess Anne College, Md., has been appointed instructor in industrial education at the Cheyney, Penna., State Teachers College. . . . New officers of the National Graphic Arts Education Association for 1946-47 are B. G. CULVER, president, Rochester, N.Y., Institute of Technology; G. J. BILSEY, vice-president, East High School, Cleveland, Ohio; W. E. BROCK, secretary, Presidio Junior High School, San Francisco; V. C. COYNE, treasurer, Middlesex County Vocational School, New Brunswick, N.J.; and FRED HARTMAN, educational director, Washington, D.C. . . . FLOYD PERCY has been appointed instructor in industrial and vocational education at Kansas State Teachers College, Pittsburg. . . . ARTHUR WALD, formerly state supervisor of instruction, Ohio VTWPW, has been appointed supervisor of training, North Georgia Vocational School, Clarkesville. . . . A. R. ELLIOTT has been named printing instructor at Hutchinson, Kansas, High School. . . . W. C. MATHEWS has returned to his position as supervisor of industrial arts for the Oakland, Calif., schools after service in the Navy. . . . MARION GROSSE has returned as director, industrial education, Fresno State College, after service with the U.S. Office of Education and the California State Department of Education. . . . HOMER TEMPLIN, Clyde, Kansas, has been named instructor of industrial arts at the St. John, Kansas, High School. . . . LYNNE C. MONROE has returned to his position as associate professor of industrial education at Santa Barbara, Calif., College. . . . WILLIAM H. RITTER has joined the faculty of the industrial-arts department at the Peru, Neb., State Teachers College.

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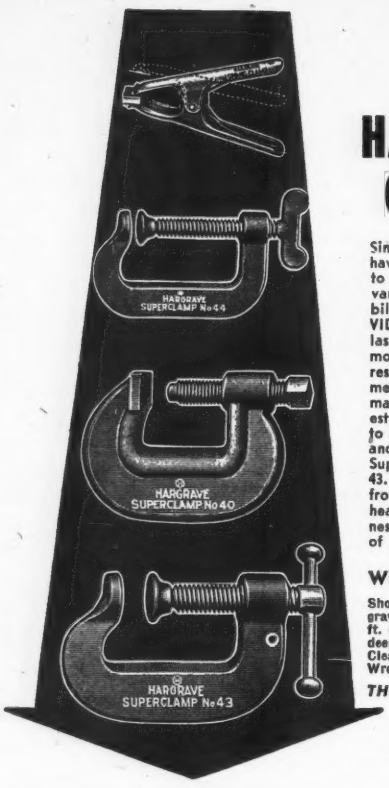

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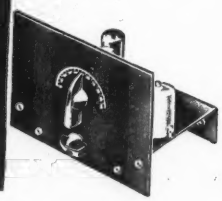

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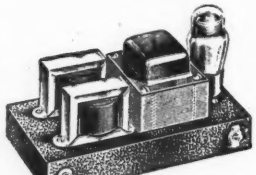

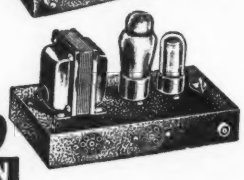

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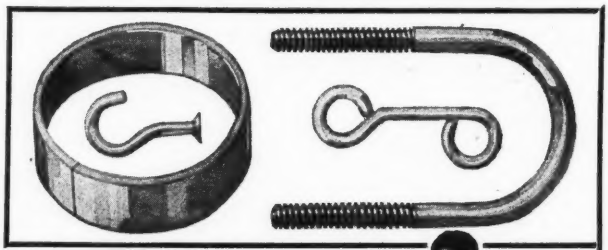

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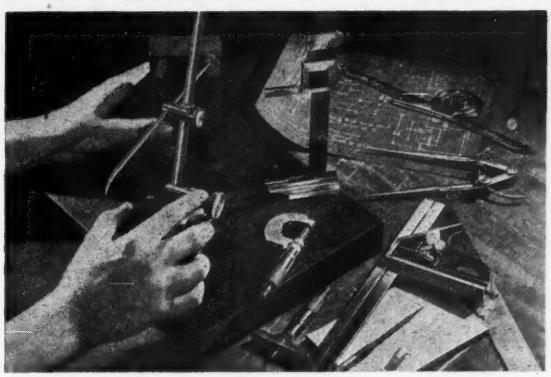

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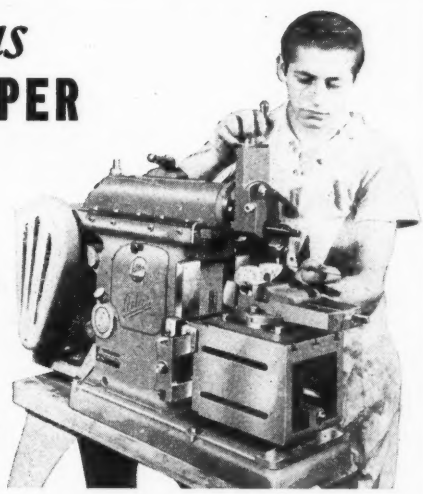

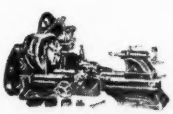

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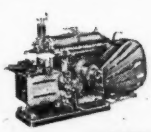

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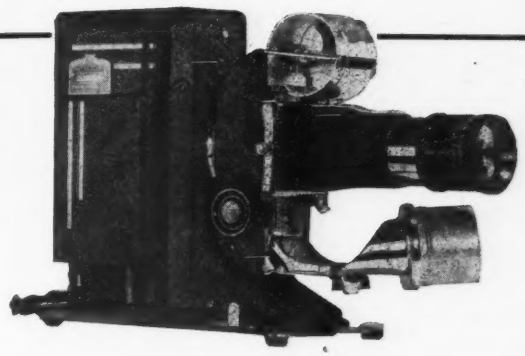

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BY *George E. Schuster*

This is a good example of a simple elementary industrial-arts project which can be correlated with other subject-matter areas. George E. Schuster teaches industrial arts in the Gaskill Junior High School, Niagara Falls, New York.

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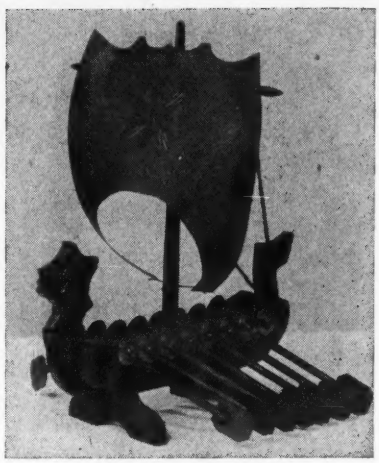
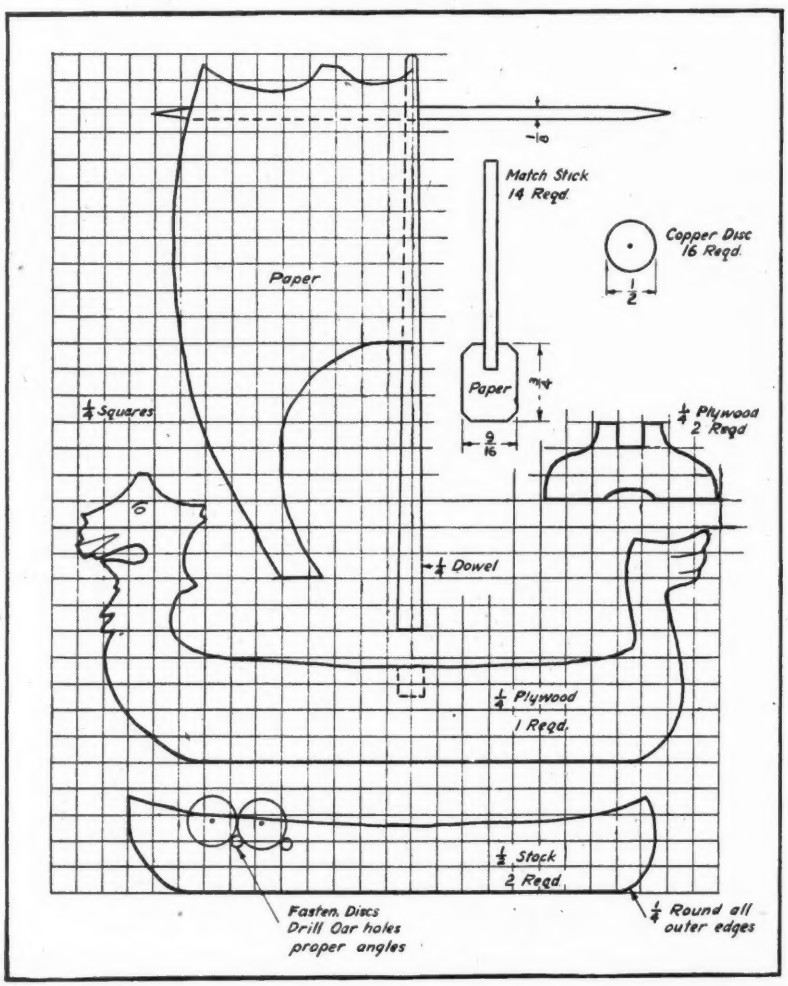


Construction steps are: (1) cut out pieces; (2) shape sides; (3) nail sides to center piece; (4) apply a coat of flat light green or yellow paint to entire model (this coat does not need to be very smooth); (5) when dry apply a coat of burnt umber, allowing streaks of undercoat to show through; (6) mount shields and oars; and (7) paint and attach sail.



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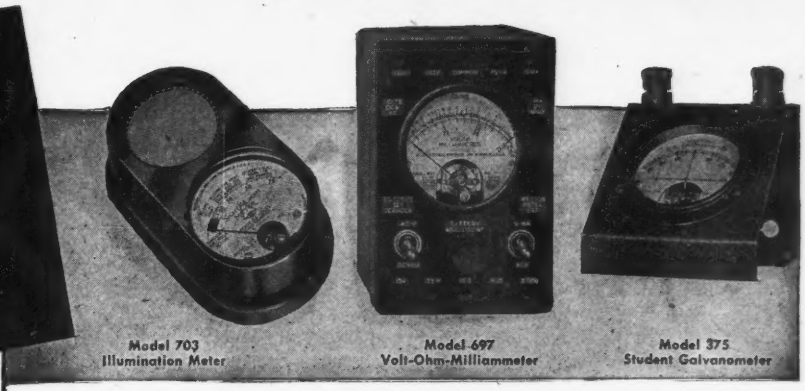

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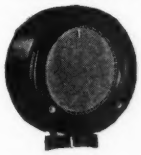

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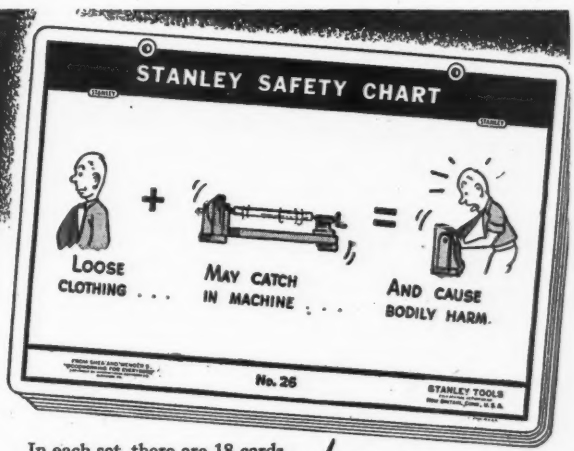

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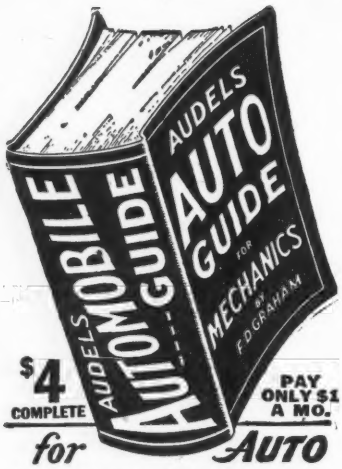

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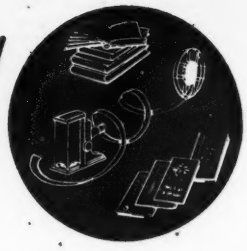

Improving Instruction in Industrial Arts. Smith, Committee Chairman. Washington: Industrial-Arts Division, American Vocational Association, 1946. Pp. 96. $ .25. Five for $1.

This publication undoubtedly will be a landmark in the progress of industrial arts. Every teacher, every administrator, every teacher-trainer who has a serious interest in the teaching of industrial arts should be acquainted with this little volume.

As the title implies, this booklet is intended primarily to help the teacher do a better instructional job. Toward that end a number of helpful procedures have been followed. Two divisions of the booklet will be of major interest to teachers. The first is that dealing with objectives of industrial-arts instruction. A total of nine objectives are listed but, unlike usual practice when principles are enunciated by authorities, specific procedures for attaining the objectives are listed so that a teacher can ascertain for himself areas where his program is meeting objectives and other areas where he might wish to add to his teaching to make it more effective.

The other section of the booklet of major interest to teachers is the list of learning units. Lists are given for things pupils should learn to do and things pupils should know in 18 industrial-arts units. This again is a top-notch aid for the use of teachers in checking their own instruction.

The bulletin is distinctly not a syllabus or a course of study as the authors are careful to point out. Obviously and rightly they want the teacher to develop his own course of study to meet the needs of his students and his community as well as his own capacities.

Particularly noteworthy is the way the authors have steered away from the use of "pedagese" which plagues so many educational reports. The language is simple and straightforward and the content has substance which the teacher can readily relate to his own shop activities.

There are a few omissions which might be questioned. Aviation education is hardly mentioned. The use of aluminum in metalworking is overlooked. No notice is made of the increasing interest in radio as a part of industrial-arts electricity.

This booklet is a revision of the AVA bulletin on *Standards of Attainment in Industrial-Arts Teaching* which went out of print in 1941. The first report of the committee came out in 1929 and this revision has grown out of the work of the committee through the years. The committee is made up of Homer J. Smith, University of Minnesota, chairman; W. T. Bawden, Kansas State Teachers College; Clyde A. Bowman, The Stout Institute; E. E. Ericson, Santa Barbara College; J. F. Friese, Pennsylvania State College; V. C. Fryklund, The Stout Institute; A. B. Mays, University of Illinois; Frank C. Moore, Cleveland Board of Education; M. M. Proffitt, U. S. Office of Education; W. E. Roberts (retired), Cleveland Board of Education; R. W. Selvidge (deceased), University of Missouri; and G. F. Weber, South Bend Board of Education. Messrs. Smith, Bawden, and Mays made up the editorial subcommittee. The thanks of the profession are due these men.

Automobile Engines. Kuns and Plumridge. Chicago: American Technical Society, 1946. Pp. 732. $4.75.

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Ray F. Kuns is principal, Automotive Vocational High School, Cincinnati, Ohio, and Tom C. Plumridge is head, automobile engineering department, American School.

Drawing for Life and Industry. Green. Milwaukee, Wis.: Bruce Publishing Co., 1945. Pp. x+181. Paper bound. $1.56.

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Daniel Green is instructor in machine and general drawing, The Stout Institute.

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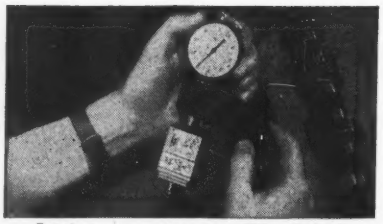

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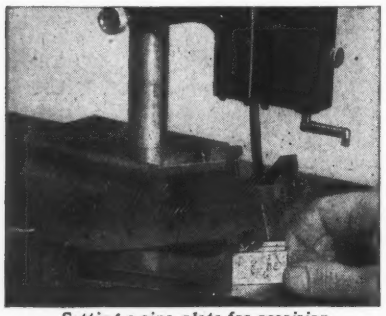

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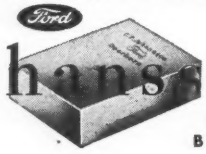
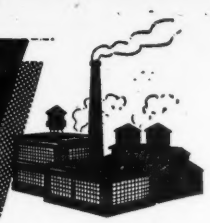
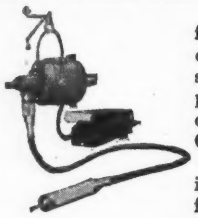


GAGE BLOCKS

News from INDUSTRY



Dumore Flexible Shaft Utility Tool



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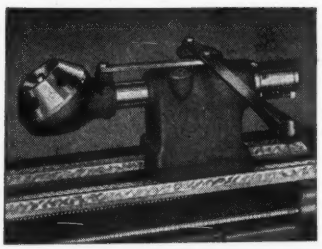

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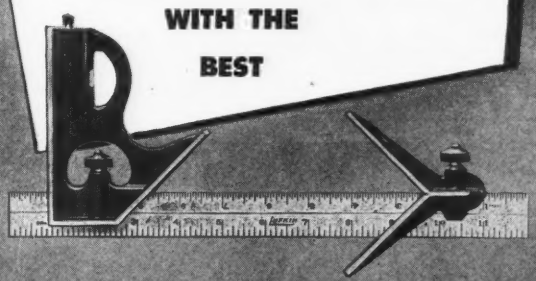

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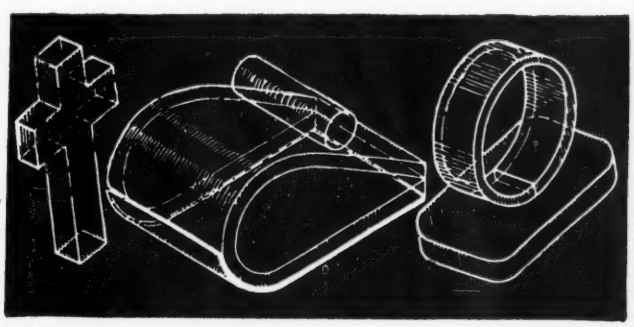

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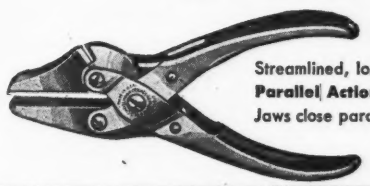

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Washington . . . *from page 24*

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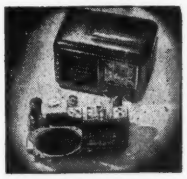

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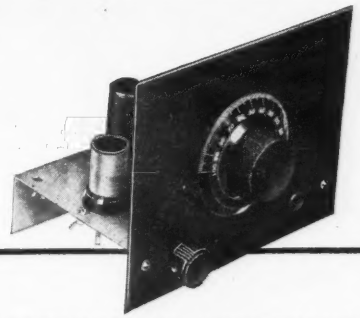

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FROM WASHINGTON

BY MICHAEL PACA

IN Paris this month the United Nations Educational, Cultural, and Scientific Organization meets for its first full-dress session. Because UNESCO is a world group of educators and cultural workers, it will be dismissed by some as another club for academicians. But it will not be that—if the American delegates to Paris carry out the spirit of the 90 men and women who drew up an American platform for UNESCO. Our idea is that UNESCO become the "cutting edge for international action."

The quoted phrase, from the final report of the national commission for the UNESCO which met in Washington, is no fancy "cover-up" description. For the national commission sat for four days in the offices of the State Department sharpening and polishing plans and projects which, if carried out, would indeed make UNESCO the cutting edge for world action.

These projects will cost money. A UN radio network, proposed to reach every part of the globe with programs for peace education, would cost $250,000,000. All the enterprises UNESCO might wish to launch may cost as much as a billion and a half a year. "Even more," wrote the national commission, "might well be justified if practical and useful projects presented themselves."

The question of what are practical and useful projects which the world's people should carry on through UNESCO was uppermost in the discussions of the national commission in Washington. Immediately dismissed were such tasks as compiling bibliographies, publishing yearbooks, exchanging research abstracts, or carrying on world conferences of librarians, archivists, or professors. Only undertakings which will directly and immediately rout mistrust, suspicion, and fears leading to war were given an OK by the American commission. In addition to the world radio network, the commission approved plans to revise the world's textbooks so as to eliminate national bias; and to bring to the people of the world the best in motion pictures, publications, and books which will build attitudes of peace.

▸▸ Nothing would be more unfair to the men and women who sat and drafted the UNESCO platform than to suggest that they propose to feed the people of the world with "culture and propaganda" grown on Paris boulevards. Dr. Harold Benjamin, who was chairman of the education section, puts it this way:

"UNESCO must carry on all its projects for promotion of peace and security under the concept of an education which begins with the local area and community. If the main problem in a community is food production, education should begin at that point. If it is the introduction of small industry, education should begin there. To build attitudes for peace in a world where 75 percent of the population is illiterate and 80 percent is tied to the land, often raising barely enough for their own use, it is imperative that methods be found to reach these people with the best of civilization as applied to local needs."

▸▸ On November 15 the 48 states take over the operation of the Employment Service, which had been federalized during the war. While the state governors from here on forward will have complete control over what was formerly the USES, the Labor Department in Washington still has responsibility for seeing that "national policies" are carried out.

In a document sent to all states, Secretary of Labor Schwellenbach informed the state employment offices that it should be their policy to "maintain cooperative relations with the schools, training agencies, and other community groups to facilitate the entry of young workers into employment." Furthermore, the state employment offices are told to help working youth to jobs by "promoting employer acceptance on the basis of qualifications." Behind this clause is Washington's hope that all youth, whether Negro or white, will be referred to a job on the basis of skill and not on personal considerations.

Another dictum from Washington to the state employment offices is that they provide employment counseling services to young workers. Officials are careful to point out that there is no intent here to duplicate the guidance and counseling offered in many schools. The public employment offices are directed to limit their counseling to giving the applicant information which will help him decide which job to take. The better equipped public employment offices, however, will use aptitude and interest tests to get information about the applicant's abilities.

While the federal government is footing 100 percent of the bill of the public employment offices, it has no authority over them aside from suggesting policies. Hence, whether the public employment offices carry out the suggestions from Washington will depend primarily on how well the local offices are equipped to do so and to what extent the people and the schools needle them to carry on both special placement and counseling services for young workers.

▸▸ If you have wondered about the lumber shortage, here are some official facts. Supply is still tight, but is getting better. Lumber output is running well above last year's levels and the level originally expected for 1946. Production totaled

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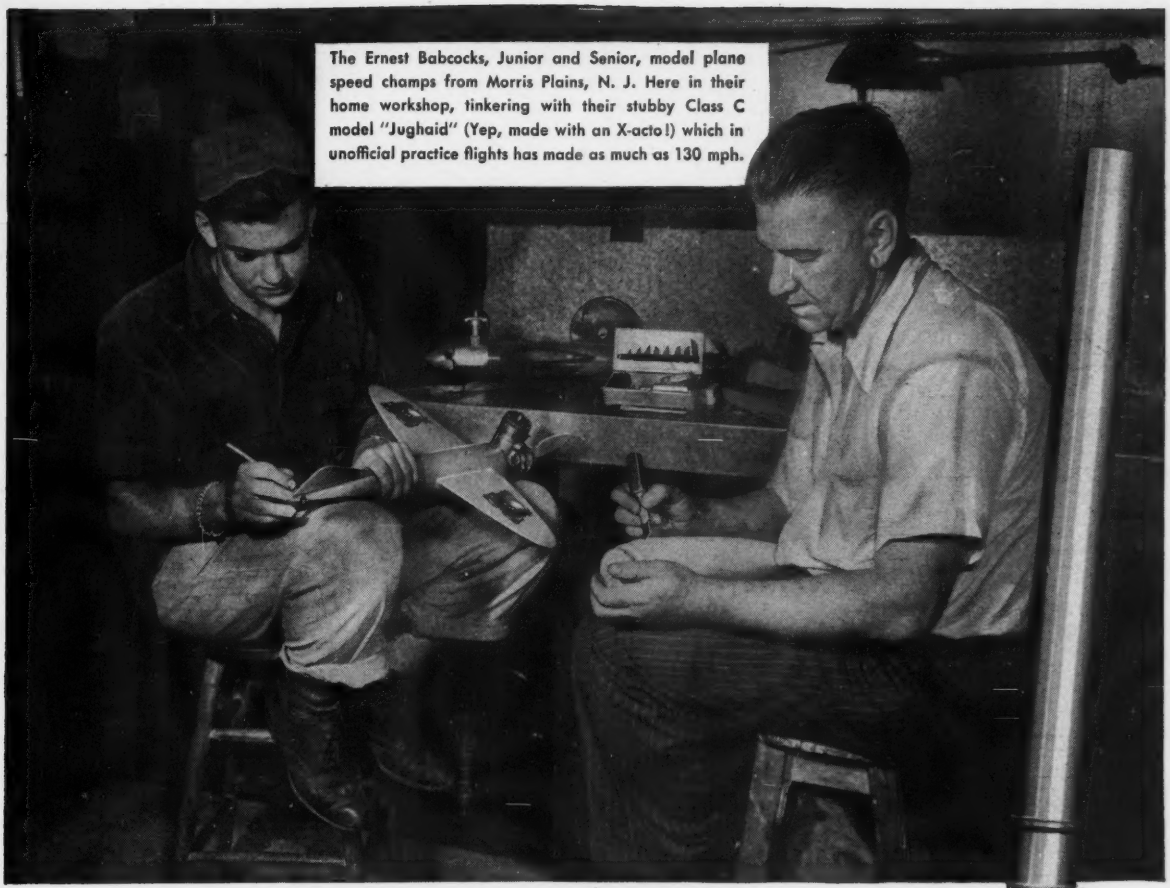

The Ernest Babcocks, Junior and Senior, model plane speed champs from Morris Plains, N. J. Here in their home workshop, tinkering with their stubby Class C model "Jughaid" (Yep, made with an X-acto!) which in unofficial practice flights has made as much as 130 mph.

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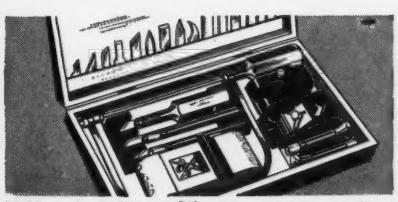
X-acto is tops, as well, for whittlers, paper sculptors, or any other hobbycrafter, be he amateur or expert. With 13 scalpel-sharp blades and 3 safety-grip handles (*all-metal, no more substitute plastics!*) you'll do a slicker job, and *quicker*, when you use super-sharp X-acto.

ALL METAL
X-acto No. 2 Solid Duraluminum Knife . . . **50c**
With 5 assorted blades, **$1.** Other X-acto Knives, Tools, Chests, **50c** to **$12.50.**



Hobbycrafter's Dream Gift. No. 85 X-acto Tool Chest—3 all-metal knives; full assortment of blades; saw; sander; stripper; planer; drills and holders; steel ruler; complete in wooden chests, $12.50.

X-acto*
KNIVES & TOOLS

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